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UNISYS CORPORATION
MS 4773
PO BOX 64942
ST. PAUL, MN 55164-0942

EXAMINER

DODDS, HAROLD E

ART UNIT	PAPER NUMBER
2177	17

DATE MAILED: 07/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/515,158

Applicant(s)

QUERNEMOEN ET AL.

Examiner

Harold E. Dodds, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-8, 16, 17 and 20 is/are rejected.
- 7) ☒ Claim(s) 9-15, 18, and 19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stellwagen, Jr. (U.S. Patent No. 5,835,755) and Robinson et al. (U.S. Patent No. 6,263,433).

3. Stellwagen rendered obvious independent claims 1 and 20 by the following:

"...for the yet-to-be built database management system..." at col. 8, lines 43-45 and col. 1, lines 33-36.

"...obtaining one or more throughput workload requirements..." at col. 6, lines 1-5, col. 8, lines 53-57, and col. 8, lines 39-43.

"...for the yet-to-be built database management system..." at col. 8, lines 43-45 and col. 1, lines 33-36.

"...and determining the hardware resources needed..." at col. 8, lines 57-61 and col. 8, lines 39-43.

"...for the yet-to-be built database management system..." at col. 8, lines 43-45 and col. 1, lines 33-36.

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"...to satisfy the one or more throughput workload requirements..." at col. 1, lines 14-18, col. 8, lines 53-57, and col. 8, lines 39-43.

Stellwagen does not teach the use of hardware utilization limits.

4. However, Robinson teaches the use of hardware utilization limits as follows:

"...providing one or more desired hardware utilization limits..." at col. 6, lines 49-51, col. 8, lines 13-16, and col. 5, lines 16-19.

"...while remaining within the desired hardware utilization limits..." at col. 6, lines 46-49, col. 2, lines 3-8, col. 8, lines 13-16, and col. 5, lines 16-19.

It would have been obvious to one of ordinary skill at the time of the invention to combine Robinson with Stellwagen to specify the desired hardware utilization limits when determining the hardware resources required in order to provide sufficient computing and memory resources to meet the utilization requirements while limiting the cost of the hardware by not providing excessive capacity. Stellwagen and Robinson teach the use of similar systems. They teach the use of computers, the use of databases, the use of networks, the use of servers, the use of hardware, the use of software, the use of workloads, the use of requirements, the use of hardware utilization, and the use of hardware throughputs. Stellwagen provides a proposed database management system with throughput workload requirements and Robinson provides for hardware utilization limits.

5. As per claim 2, the "...accepting user entered changes..." is taught by Stellwagen at col. 6, lines 1-5, col. 8, lines 43-45, and col. 8, lines 61-63,

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the "...to the desired hardware utilization limits..." is taught by Robinson col. 8, lines 13-16, and col. 5, lines 16-19,

the "...re-determining the required hardware resources..." is taught by Stellwagen at col. 9, lines 8-10 and col. 8, lines 39-43,

the "...needed to remain within said desired hardware utilization limits..." is taught by Robinson at col. 6, lines 46-49, col. 2, lines 3-8, col. 8, lines 13-16, and col. 5, lines 16-19,

and the "...and outputting the determined hardware resources to the human user in a format to advise the human user..." is taught by Stellwagen at col. 8, lines 63-65, col 9, lines 8-10, col. 8, lines 39-43, and col. 1, lines 44-49.

6. As per claim 3, the "...obtaining selected database requirements..." is taught by Stellwagen at col. 7, lines 48-51, col. 2, lines 55-57, and col. 8, lines 39-43,

the "...including expected database size..." is taught by Stellwagen at col. 8, lines 45-48 and col. 2, lines 55-57,

the "...and determining the hardware resources needed ..." is taught by Stellwagen at col. 9, lines 8-10 and col. 8, lines 39-43,

the "...for the yet-to-be built database management system..." is taught by Stellwagen at col. 8, lines 43-45 and col. 1,

the "...to satisfy the selected database requirements..." is taught by Stellwagen at col. 1, lines 14-18, lines 33-36, col. 7, lines 48-51, col. 2, lines 55-57, and col. 8, lines 39-43,

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and the "...while remaining within the desired hardware utilization limits..." is taught by Robinson at col. 6, lines 46-49, col. 2, lines 3-8, col. 8, lines 13-16, and col. 5, lines 16-19.

7. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stellwagen and Robinson as applied to claim 2 above, and further in view of Al-Hilali et al. (U.S. Patent No. 6,086,618).

As per claim 5, the "...one or more throughput workload requirements..." is taught by Stellwagen at col. 8, lines 53-57 and col. 8, lines 39-43, but the "...includes a transactions per second requirement..." is not taught by either Stellwagen or Robinson.

However, Al-Hilali teaches the use of transactions per second requirements as follows:

"...A transaction is an identifiable operation occurring at the server application in response to user/client behavior and can typically be measured in rate form (transactions per second)..." at col. 4, lines 58-61.

It would have been obvious to one of ordinary skill at the time of the invention to combine Al-Hilali with Stellwagen and Robinson to provide a measure of processor throughput in order to define methodology for accurately estimating the total resource usage of a server application. Stellwagen, Robinson, and Al-Hilali teach use of similar systems. They teach the use of computers, the use of databases, the use of networks, the use of servers, the use of hardware, the use of software, the use of requirements, and the use of hardware utilization and Stellwagen and Al-Hilali teach the use of clients. Stellwagen provides a proposed database management system with throughput

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workload requirements, Robinson provides for hardware utilization limits, and Al-Hilali provides a means of defining the transactions rate.

8. As per claim 6, the "...determining and re-determining steps include determining the hardware resources needed..." is taught by Stellwagen at col. 8, lines 57-61 and col. 8, lines 39-43 and the "...as a function of the transactions per second requirement..." is taught by Al-Hilali at col. 11, lines 1-7 and col. 4, lines 58-61.

9. As per claim 7, the "...hardware resources..." is taught by Stellwagen at col. 8, lines 39-43 and the "...include a number of processors..." is taught by Al-Hilali at col. 18, lines 50-54.

10. As per claim 8, the "...determining and re-determining steps include determining said number of processors..." is taught by Al-Hilali at col. 4, lines 17-20 and col. 18, lines 50-54 and the "...as a function of the transactions per second requirement..." is taught by Al-Hilali at col. 11, lines 1-7 and col. 4, lines 58-61.

11. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stellwagen, Jr. (U.S. Patent No. 5,835,755), Robinson et al. (U.S. Patent No. 6,263,433), and Fanshier (U.S. Patent No. 5,841,972).

12. Stellwagen rendered obvious independent claim 16 by the following:

"...obtaining a workload requirement from said human user..." at col. 6, lines 1-5, col. 8, lines 53-57, col. 8, lines 39-43, and col. 8, lines 45-48.

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"...and determining said hardware resource requirements..." at col. 8, lines 57-61 and col. 8, lines 39-43.

"...as a function of said workload requirement..." at col. 8, lines 4-5, col. 8, lines 53-57, and col. 8, lines 37-43.

Stellwagen does not teach the use of hardware utilization limits and the use of default values.

13. However, Robinson teaches the use of hardware utilization limits as follows:

"...for selected hardware utilization limits..." at col. 2, lines 56-58, col. 8, lines 13-16, and col. 5, lines 16-19.

"...initializing said selected hardware utilization limits..." at col. 2, lines 53-58, col. 8, lines 13-16, and col. 5, lines 16-19.

"...while remaining within said selected hardware utilization limits..." at col. 2, lines 3-7, col. 2, lines 56-58, col. 8, lines 13-16, and col. 5, lines 16-19.

It would have been obvious to one of ordinary skill at the time of the invention to combine Robinson with Stellwagen to specify the desired hardware utilization limits when determining the hardware resources required in order to provide sufficient computing and memory resources to meet the utilization requirements while limiting the cost of the hardware by not providing excessive capacity. Stellwagen and Robinson teach the use of similar systems. They teach the use of computers, the use of databases, the use of networks, the use of servers, the use of hardware, the use of software, the use of workloads, the use of requirements, the use of hardware utilization, and the use of hardware

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throughputs. Stellwagen provides a proposed database management system with workload requirements and Robinson provides for hardware utilization limits.

Robinson does not teach the use of default values.

14. However, Fanshier teaches the use of default values as follows:

"...establishing default values..." at col. 10, lines 16-18.

"...to said default values..." at col. 10, lines 16-18.

It would have been obvious to one of ordinary skill at the time of the invention to combine Fanshier with Stellwagen and Robinson to set default values in order to provide a basis to start the defining of a hardware configuration for both standardization and user convenience. Stellwagen, Robinson, and Fanshier teach the use of related systems. They teach the use of computers, the use of databases, the use of networks, the use of servers, the use of hardware, and the use of software, and Stellwagen and Fanshier teach the use of clients and the use of the SQL query language. Stellwagen provides a proposed database management system with workload requirements, Robinson provides for hardware utilization limits, and Fanshier provides for default values for initializing the hardware utilization limits.

15. As per claim 17, the "...obtaining new hardware utilization limits..." is taught by Robinson at col. 2, lines 11-16, col. 7, lines 52-55, col. 8, lines 13-16, and col. 5, lines 16-19, the "...from said human user..." is taught by Stellwagen at col. 8, lines 45-48, the "...re-determining said hardware resource requirements..." is taught by Stellwagen at col. 8, lines 57-61 and col. 8, lines 39-43,

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the "...while remaining within said hardware utilization limits..." is taught by Robinson at col. 2, lines 3-7, col. 2, lines 56-58, col. 8, lines 13-16, and col. 5, lines 16-19,

the "...and displaying the determined hardware resource requirements in a format..." is taught by Stellwagen at col. 8, lines 63-65, col. 8, lines 57-61, and col. 8, lines 39-43,

the "...to advise the user of the hardware resource requirements..." is taught by Stellwagen at col. 1, lines 44-49,

the "...for a yet-to-be built database management system computer..." is taught by Stellwagen at col. 8, lines 43-45, col. 1, lines 33-38,

and the "...to meet the user entered workload requirement..." is taught by Stellwagen at col. 8, lines 45-58, col. 8, lines 53-57, and col. 8, lines 39-43.

Allowable Subject Matter

16. Claims 9-15 and claims 18 and 19 are objected to as being dependent upon rejected base claims, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

17. Applicants' arguments filed 17 November 2003 have been fully considered but they are not persuasive. In the first argument for independent claims 1 and 20, on page 8, paragraphs 3 and 4, the Applicants state:

"In paragraph 4 of the Office Action, the Examiner rejected claims 1-3 and 20 under 35 U.S.C. 103(a) as being unpatentable over Stellwagen, Jr. (U.S. Patent No. 5,835,755) in view of Robinson et al. (U.S. Patent No. 6,263,433). The

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Examiner acknowledges that Stellwagen, Jr. does not suggest the use of hardware utilization limits. However, the Examiner states that Robinson et al. suggest providing one or more desired hardware utilization limits (citing Robinson et al., column 6, lines 49-51, column 8., lines 13-16, column 5, lines 16-19), and remaining within the desired hardware utilization limits (citing Robinson et al., column 6, lines 44-49, column 2, lines 3-8, column 8, lines 13-16i and column 5, lines 16-19).

After careful review, Applicants must respectfully disagree. Robinson et al. relates to "a method and apparatus for distributing computer resources in a network environment" (Robinson et al., abstract). The Examiner states that Robinson et al. discloses "providing one or more desired hardware utilization limits". In support of this assertion, the Examiner cites to the following passages from Robinson et al."

This argument is supported by additional text on pages 9-11. The Examiner disagrees. Robinson teaches the providing of hardware utilization limits as follows:

"...Database 204 access services include services that **provide** the capability to create, read, write, rewrite, and delete data within a replicated database..." at col. 6, lines 46-49.

"...The temporal deviation between the database 204 copies will be dependent on numerous factors including **hardware utilization**, instantaneous transaction mix, and network 102 latency..." at col. 8, lines 13-16.

"...The **limits** of redundancy group functionality and database 204 access is limited by scenarios outside of the control of the computer system, e.g., unplanned hardware or software malfunctions, etc..." at col. 5, lines 16-19.

When taken together, the second and third teachings of Robinson suggest the use of hardware utilization limits. Since the system provides the capability to create, read, write, rewrite, and delete data it could also provide hardware utilization limits. Thus the combining of teachings of Robinson strongly suggest providing hardware utilization limits.

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18. In the second argument for independent claims 1 and 20, on page 11, paragraph 3, the Applicants state:

"Applicants fail to see how this discloses or suggests determining the hardware resources needed for a yet-to-be built database management system to satisfy the one or more throughput workload requirements "while remaining within the desired hardware utilization limits", as the Examiner suggests. If the Examiner elects to maintain this rejection, Applicants respectfully request that the Examiner provide a detailed explanation of how this and other passages apply to the pending claims."

Robinson teaches remaining within hardware utilization limits as follows:

"...The redundancy group comprises at least one computing system and at a plurality of computing system partitions, and manages the replication of the database schema **within** the computing system and computing system partitions..." at col. 2, lines 3-7.

"...In a redundancy group 104 the shared resources of interest are replicated databases 204, and, therefore, database 204 access services **reside** in the shared resource services 422 component...." at col. 6, lines 46-49.

"...The temporal deviation between the database 204 copies will be dependent on numerous factors including **hardware utilization**, instantaneous transaction mix, and network 102 latency..." at col. 8, lines 13-16.

"...The **limits** of redundancy group functionality and database 204 access is limited by scenarios outside of the control of the computer system, e.g., unplanned hardware or software malfunctions, etc..." at col. 5, lines 16-19.

The Examiner disagrees. As in the response to the first argument, the third and fourth teaching may be combined to suggest the use of hardware utilization limits. The combination of the "reside" and "within" from the first two teachings suggest "remaining within". Therefore, these four teachings when combined teach remaining within hardware utilization limits.

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19. In the third argument for independent claims 1 and 20, on page 12, paragraph 1, the Applicants state:

"In addition to the foregoing, since Robinson et al. fails to suggest the step of "providing one or more desired hardware utilization limits for the yet-to-be built database management system", Robinson et al. cannot suggest the step of determining the hardware resources needed for the yet-to-be built database management system to satisfy the one or more throughput workload requirements "while remaining within the desired hardware utilization limits", as recited in claim 1."

The Examiner disagrees. Stellwagen teaches the use of a proposed database management system at col. 8, lines 43-45 and col. 1, lines 33-36. The combinations of teachings of Robinson as explained in the response to the first argument and Stellwagen as explained above in this argument teach "providing one or more desired hardware utilization limits for the yet-to-be built database management system." Likewise, the teaching of Robinson as explained in the response to the second argument teaches "while remaining within the desired hardware utilization limits."

20. In the fourth argument for independent claims 1 and 20, on page 14, paragraph 1, the Applicants state:

"Even assuming that this is accurate, Applicants do not believe that merely stating that Stellwagen, Jr. and Robinson et al. both teach the use of "computers", "databases", "networks", "servers", etc., means that the combination recited in claim 1 would have been obvious. The reasons given by the Examiner do not provide any motivation or desirability of combining Stellwagen, Jr. and Robinson et al. in the manner suggested by the Examiner. As noted in MPEP § 2143, it is the duty of the Examiner to present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. If the Examiner elects to maintain the rejection of claim 1, as well as other claims, Applicants respectfully request that the Examiner present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references, as required by MPEP § 2143."

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The Examiner disagrees. The fact that Stellwagen, Jr. and Robinson et al. both teach the use of "computers", "databases", "networks", "servers", etc. means that Stellwagen and Robinson teach the use of similar systems. However, "it would have been obvious to one of ordinary skill at the time of the invention to combine Robinson with Stellwagen to specify the desired hardware utilization limits when determining the hardware resources required in order to provide sufficient computing and memory resources to meet the utilization requirements while limiting the cost of the hardware by not providing excessive capacity" as recited above in this office action.

21. In the fifth argument for claims 2 and 3 and independent claim 20 on page 14, paragraph 2, the Applicants state:

"For the foregoing reasons, as well as other reasons, claim 1 is believed to be clearly patentable over Stellwagen, Jr. in view of Robinson et al. For similar and other reasons, claims 2-3 and 20 are also believed to be clearly patentable over Stellwagen, Jr. in view of Robinson et al."

The Examiner disagrees. The responses to the first four arguments applied to independent claim 20 as well as independent claim 1. Since claims 2 and 3 are dependent on independent claim 1, the responses to the first four arguments show that independent claim 1 is rendered obvious, and no additional arguments have been made for claims 2 and 3, then claims 2 and 3 remain rendered obvious.

22. In the sixth argument for claims 5-9, on page 14, paragraph 3 and page 15, paragraph 1, the Applicants state:

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"In paragraph 9 of the Office Action, the Examiner rejected claims 5-9 under 35 U.S.C. § 103(a) as being unpatentable over Stellwagen, Jr. and Robinson et al., as applied to claim 2, and 14 further in view of Yang et al. (U.S. Patent No. 6,542,864). For similar reasons to those given above, as well as other reasons, dependent claims 5-9 are also believed to be clearly patentable over Stellwagen, Jr. in view of Robinson et al."

The Examiner disagrees. Applicant's arguments with respect to claims 5-9 have been considered but are moot in view of the new ground(s) of rejection. The Zang reference has been replaced by Al-Hilali. Claims 4-8 are rendered obvious by the substitution of the Zang reference by Al-Hilali. Claim 9 is objected to as having allowable subject matter, but being dependent upon independent claim 1 and other intervening claims.

23. In the seventh argument for claims 10-15, on page 15, paragraph 3, the Applicants state:

"In paragraph 14 of the Office Action, the Examiner rejected claims 10-15 under 35 U.S.C. § 103(a) as being unpatentable over Stellwagen, Jr., Robinson et al. and Yang et al. as applied to claim 9 above, and further in view of Miller et al. For similar reasons to those given, as well as other reasons, claims 10-15 are believed to be clearly patentable over Stellwagen, Jr., Robinson et al., Yang et al. and Miller et al. In addition, however, and as detailed above, Applicants respectfully request that the Examiner withdraw all rejections of the pending claims, including claims 10-15, that are based on Yang et al. in view of the inventors' Declaration of Prior Invention."

The Examiner disagrees. Applicant's arguments with respect to claims 10-15 have been considered but are moot in view of the new ground(s) of rejection. The Zang reference has been replaced by Al-Hilali. Claims 10-15 are objected to as having allowable subject matter, but being dependent upon independent claim 1 and other intervening claims.

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24. In the eighth argument for claims 16-19, on page 15, paragraph 4 and page 16, paragraph 1, the Applicants state:

"In paragraph 20 of the Office Action, the Examiner rejected claims 16-19 under 35 U.S.C. § 103(a) as being unpatentable over Stellwagen, Jr., Robinson et al. and Yang et al. For similar reasons to those given, as well as other reasons, claims 16-19 are believed to be clearly patentable over Stellwagen, Jr., Robinson et al. and Yang et al. In addition, however, and as detailed above, Applicants respectfully request that the Examiner withdraw all rejections of the pending claims, including claims 16-19, which are based on Yang et al. in view of the inventors' Declaration of Prior Invention."

The Examiner disagrees. Applicant's arguments with respect to claims 16-19 have been considered but are moot in view of the new ground(s) of rejection. The Zang reference has been replaced by Fanshier. Claims 16 and 17 are rendered obvious by the substitution of the Zang reference by Fanshier. Claims 18 and 19 are objected to as having allowable subject matter, but being dependent upon independent claim 16 and other intervening claims.

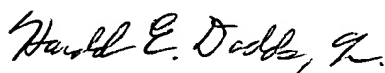
Conclusion

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harold E. Dodds, Jr. whose telephone number is (703)-305-1802. The examiner can normally be reached on Monday - Friday 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on (703)-305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Harold E. Dodds, Jr.
Patent Examiner
July 12, 2004



GRETA ROBINSON
PRIMARY EXAMINER